Systemic Lupus Erythematosus (SLE) and Pregnancy

Ahmed Badawy
MD, FRCOG, PhD

Professor of OB/GYN

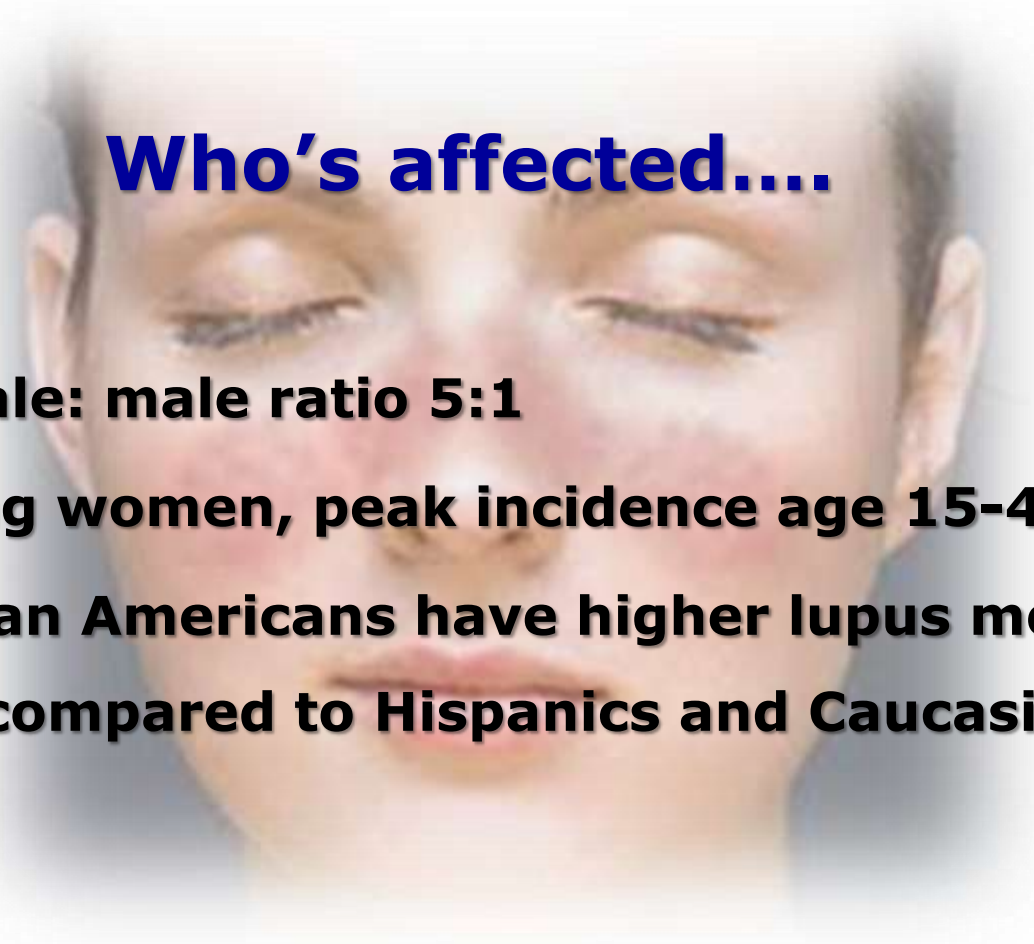
What gynecologists should know…..

What gynecologists should know…..

Chronic inflammatory disease that can affect various organs of the body

- **90%** **joints**
- **80%** **skin, serous membranes, lungs**
- **65%** **kidneys, heart**
- **25%** **CNS, small vessels**

What gynecologists should know…..



Who's affected….

- Female: male ratio 5:1
- Young women, peak incidence age 15-40 years
- African Americans have higher lupus mortality risk compared to Hispanics and Caucasians

What gynecologists should know…..

Causes

Unknown

- Genetic factors
- Environmental factors: sunlight and stress
- Infections : Viral or others
- Drugs

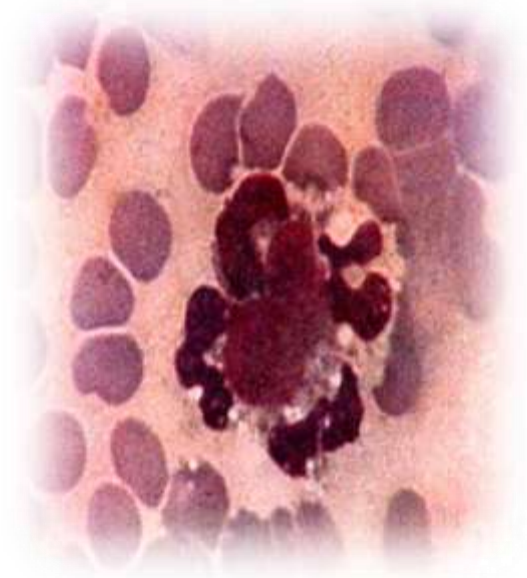
There are 38 cause Drug Induced Lupus

(hydralazine, procainamide and isoniazid)

What gynecologists should know…..

Pathogenesis

Central immunologic disturbance with autoantibody production



What gynecologists should know…..

Pathogenesis

- **Antibodies to cell nucleus component**
  ANA, anti-dsDNA
- **Antibodies to cytoplasmic antigens**
  anti-SSA, anti-SSB
- **Cell-specific autoantibodies**
  lymphocytotoxic, anti-neurone, anti-erythrocyte, anti-platelet antibodies
- **Antibodies to serum components**
  antiphospholipid antibody, anticoagulants antiglobulin

What gynecologists should know.....

Diagnosis

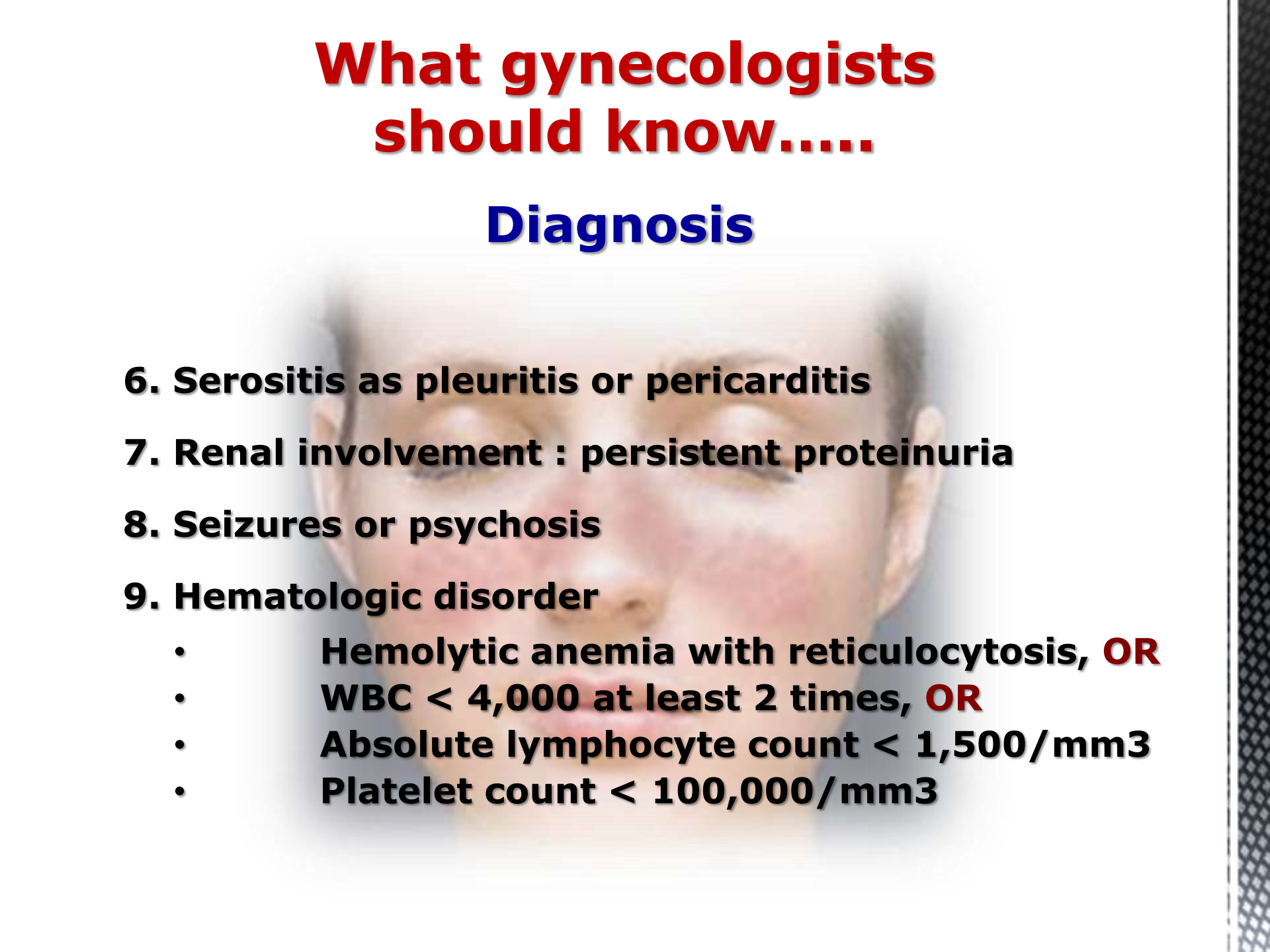
Diagnosis is made with ≥ 4 criteria present

Criteria of American College of Rheumatology (1997)

1. **Malar (butterfly) rash**
2. **Discoid lupus erythematous**
3. **Photosensitivity**
4. **Oral or nasopharyngeal ulcers**
5. **Non-erosive arthritis**

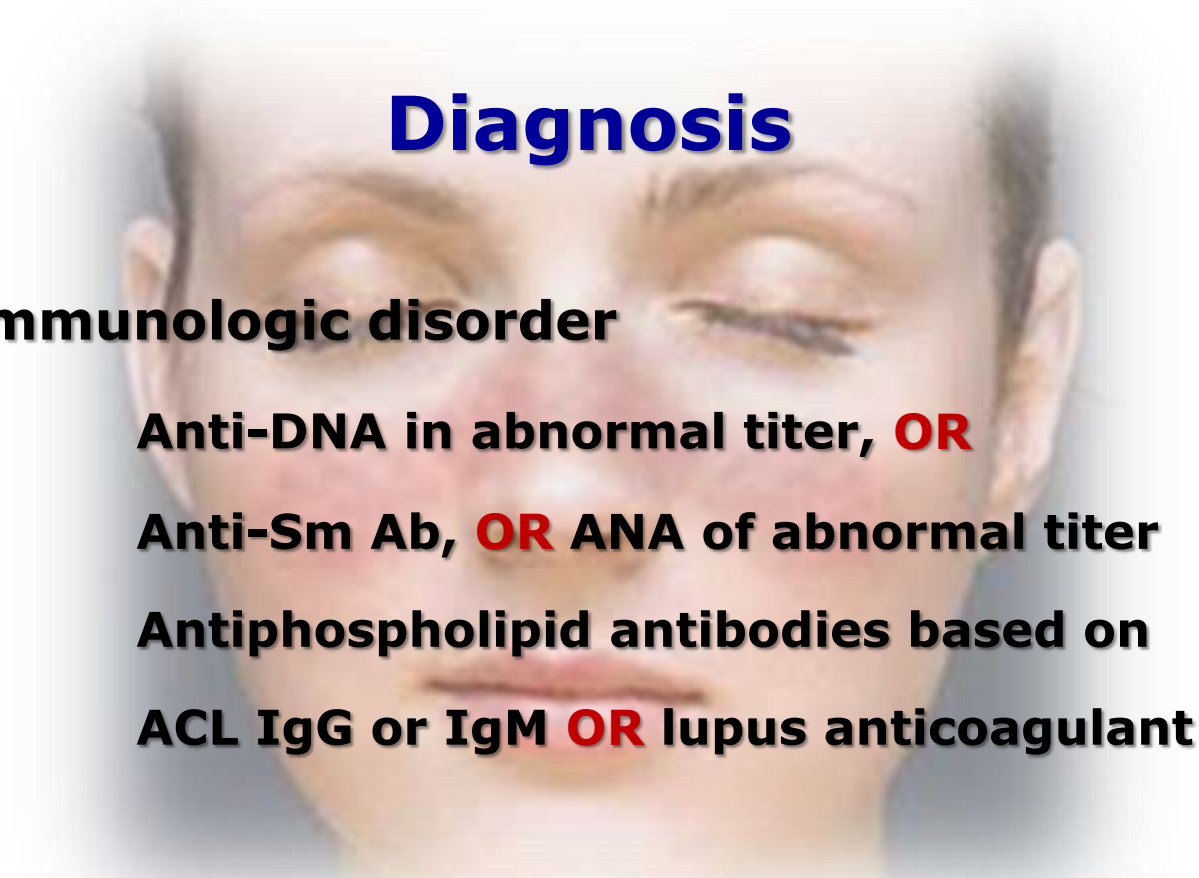
What gynecologists should know…..

Diagnosis



6. Serositis as pleuritis or pericarditis
7. Renal involvement : persistent proteinuria
8. Seizures or psychosis
9. Hematologic disorder
   - Hemolytic anemia with reticulocytosis, **OR**
   - WBC < 4,000 at least 2 times, **OR**
   - Absolute lymphocyte count < 1,500/mm3
   - Platelet count < 100,000/mm3

What gynecologists should know…..

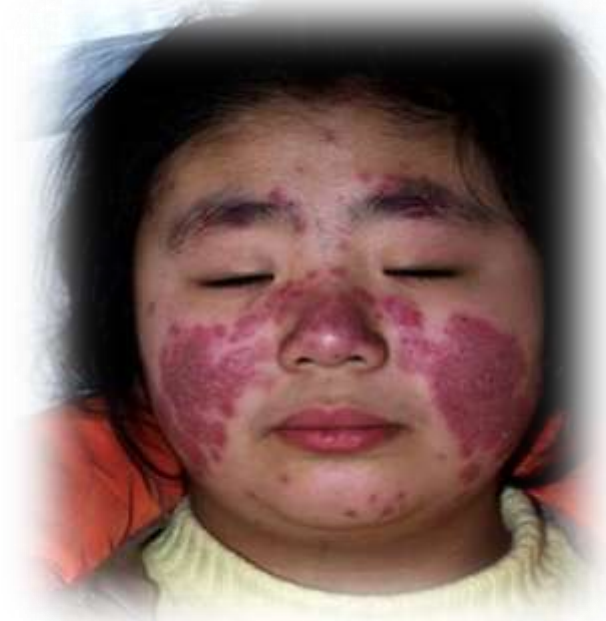


Diagnosis

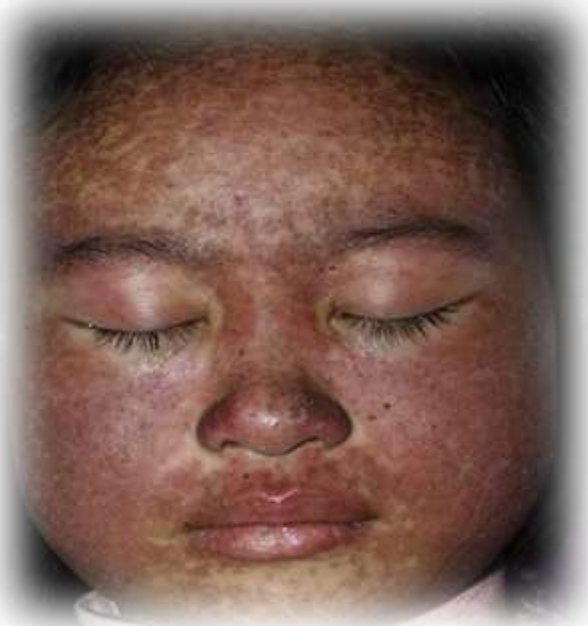
10. Immunologic disorder

- **Anti-DNA in abnormal titer, OR**
- **Anti-Sm Ab, OR ANA of abnormal titer**
- **Antiphospholipid antibodies based on ACL IgG or IgM OR lupus anticoagulant**

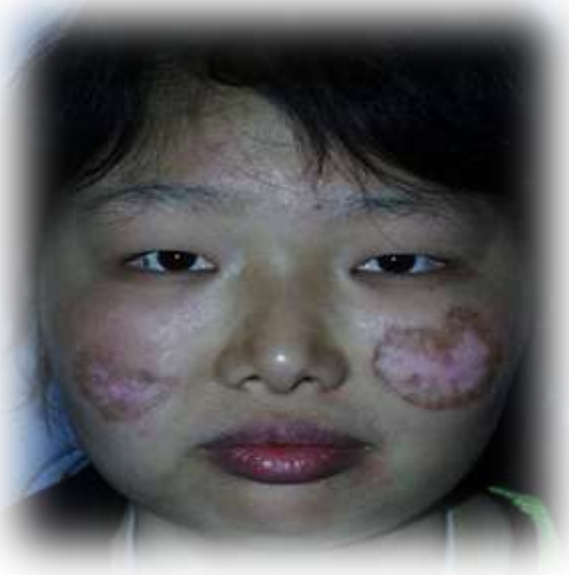
Criteria is (96% specific, 96% sensitive)



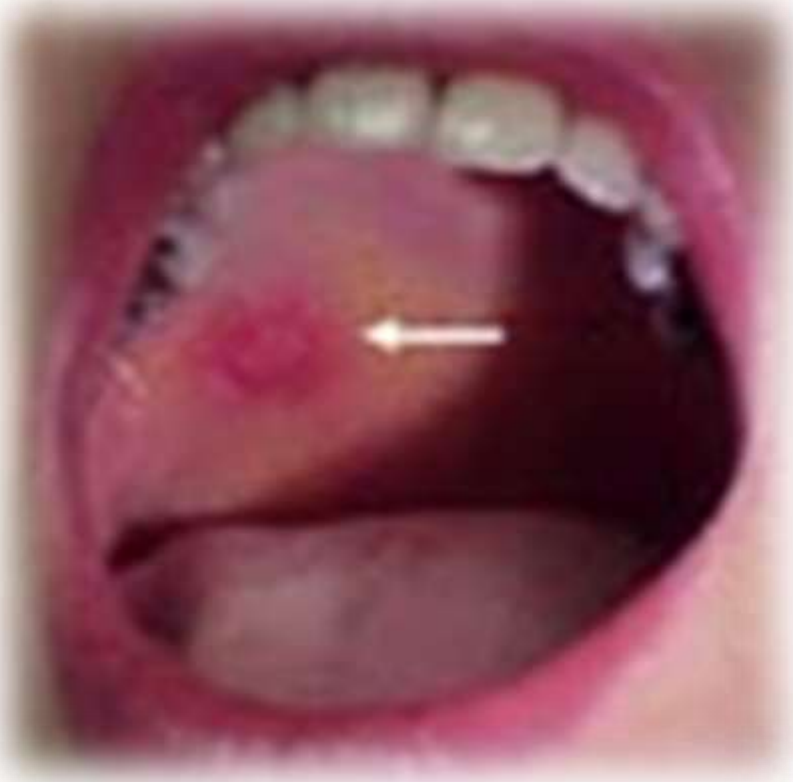
Malar rash



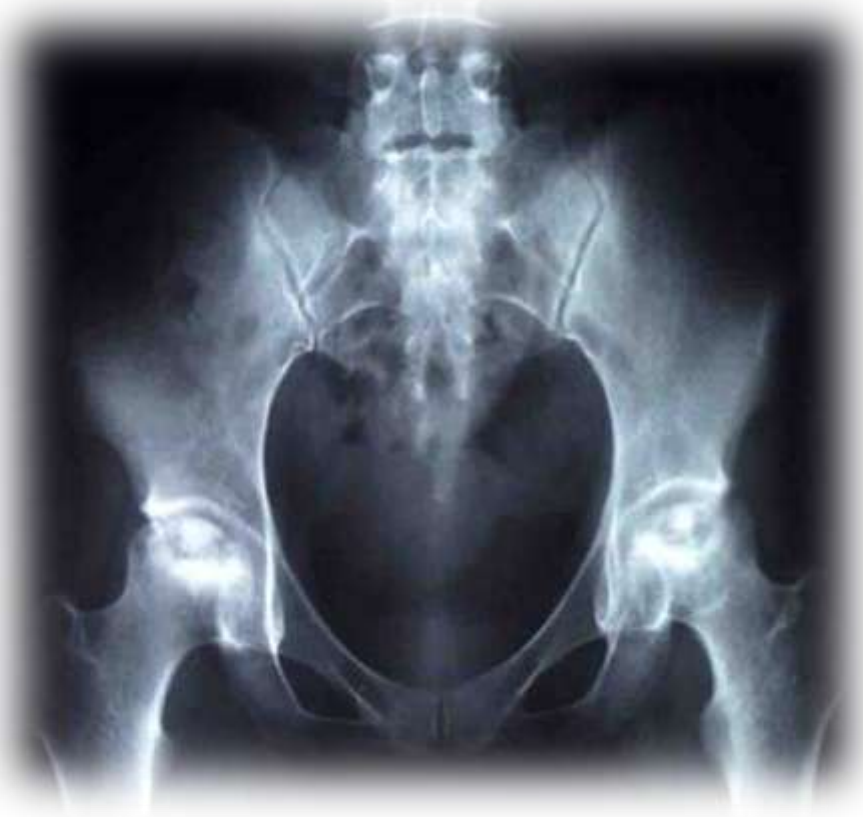
Maculopap rash



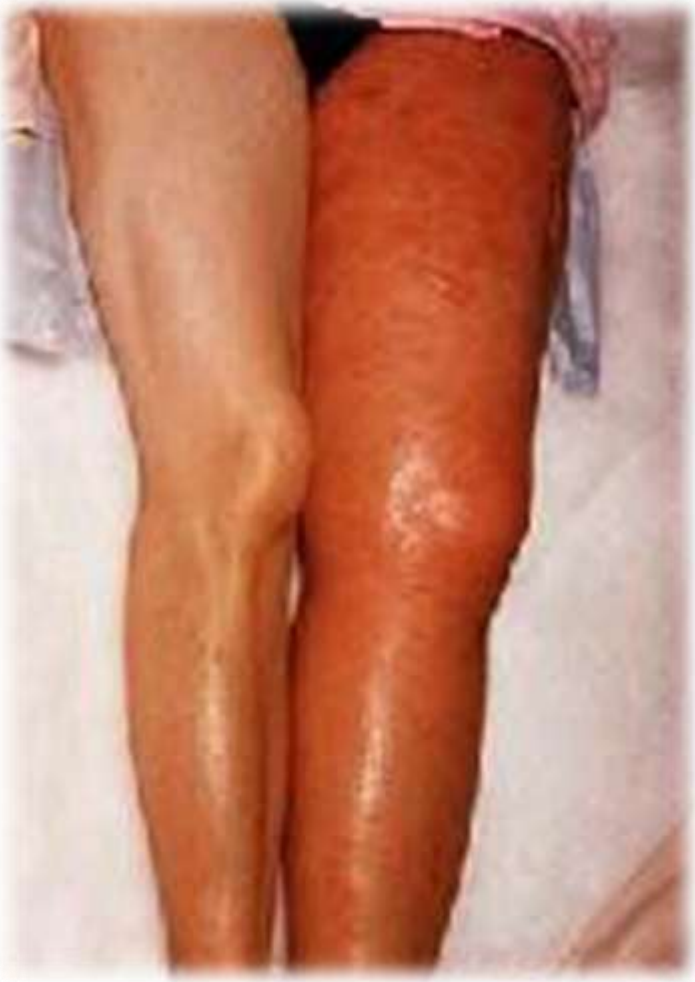
Discoid lupus



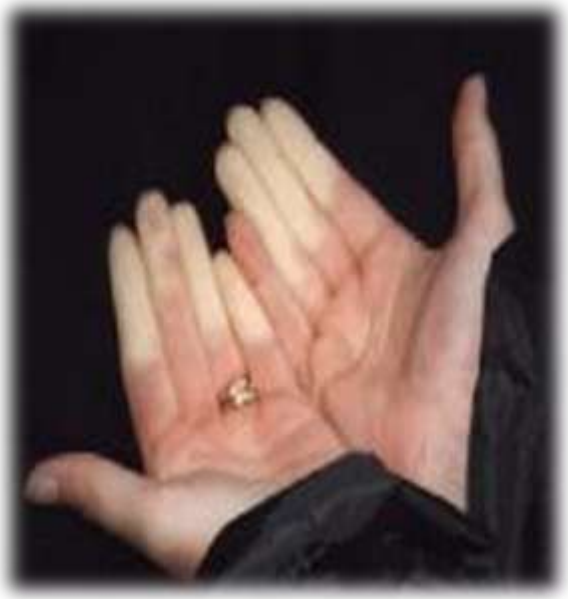
Oral ulcer



Avascular necrosis



DVT



Raynauds disease

Skin vasculitis

What gynecologists should know.....

Treatment

- Lifestyle measures
- Medications guided by specific symptoms
  - Nonsteroidal anti-inflammatory drugs (NSAIDs)

    for constitutional symptoms, musculoskeletal complaints and mild serositis
  - Antimalarials

    for skin manifestations and for musculoskeletal complaints unresponsive to NSAIDs

What gynecologists should know.....

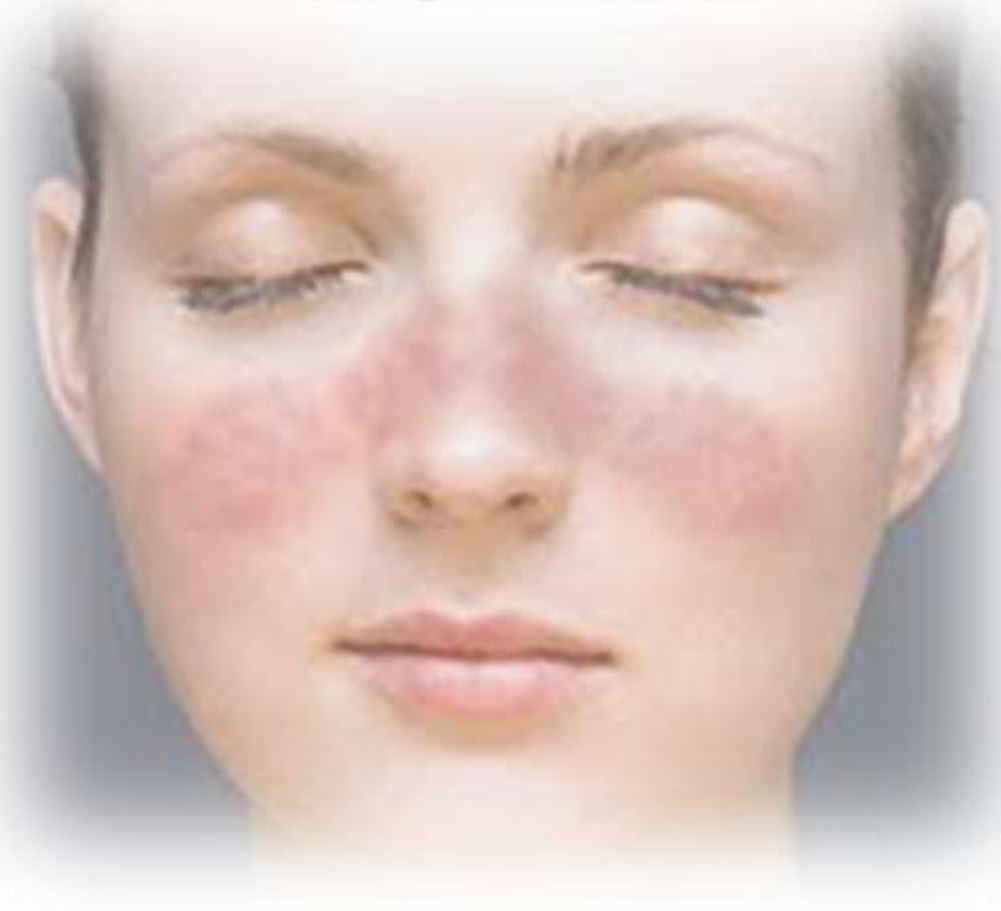
Treatment

- **Medications guided by specific symptoms**
  - **Corticosteroids**

    topical steroids useful for skin manifestations & systemic steroids for severe symptoms in any organ
  - **Immunosuppressive agents**

    particularly effective for renal and CNS symptoms & low-dose methotrexate effective for arthritis

What internists should know…..



What internists should know.....

SLE in pregnancy

Journal of Obstetrics and Gynaecology, April 2008; 28(3): 280–284

informa
healthcare

Subfertility in women with systemic lupus erythematosus

A. M. BADAWY[1], M. KHIARY[1], L. S. SHERIF[1], M. HASSAN[1], A. RAGAB[1] & I. ABDELALL[2]

Departments of [1]Obstetrics and Gynecology and [2]Clinical pathology, Mansoura University, Egypt

What internists should know…..

SLE in pregnancy

- Women with SLE have no increase in infertility
- Outcome is best for mother and child when SLE has been controlled for at least **6** months prior to pregnancy

What internists should know.....

SLE in pregnancy

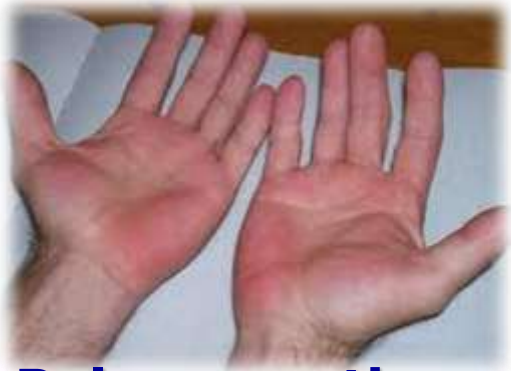
It is not a low risk pregnancy and only become risky when lupus flare or complications occur ……

What internists should know.....

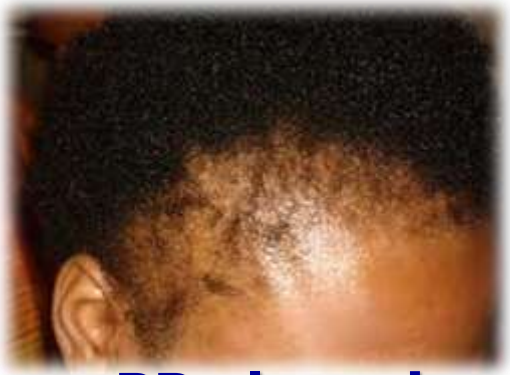
SLE flare in pregnancy

- **7-33% with SLE have flares during pregnancy**
- **Commoner with lupus nephritis**
- **Flare occurs at any trimester or postpartum**
- **Lupus flare is not exceedingly severe in pregnancy**

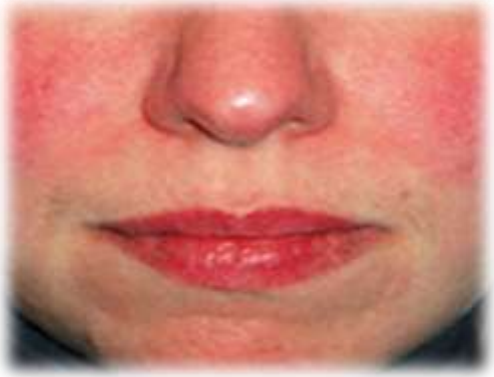
What internists should know…..



Palmar erythema



PP alopecia



Facial blushing

SLE flare in pregnancy

Is it difficult to pick the lupus flare during pregnancy?

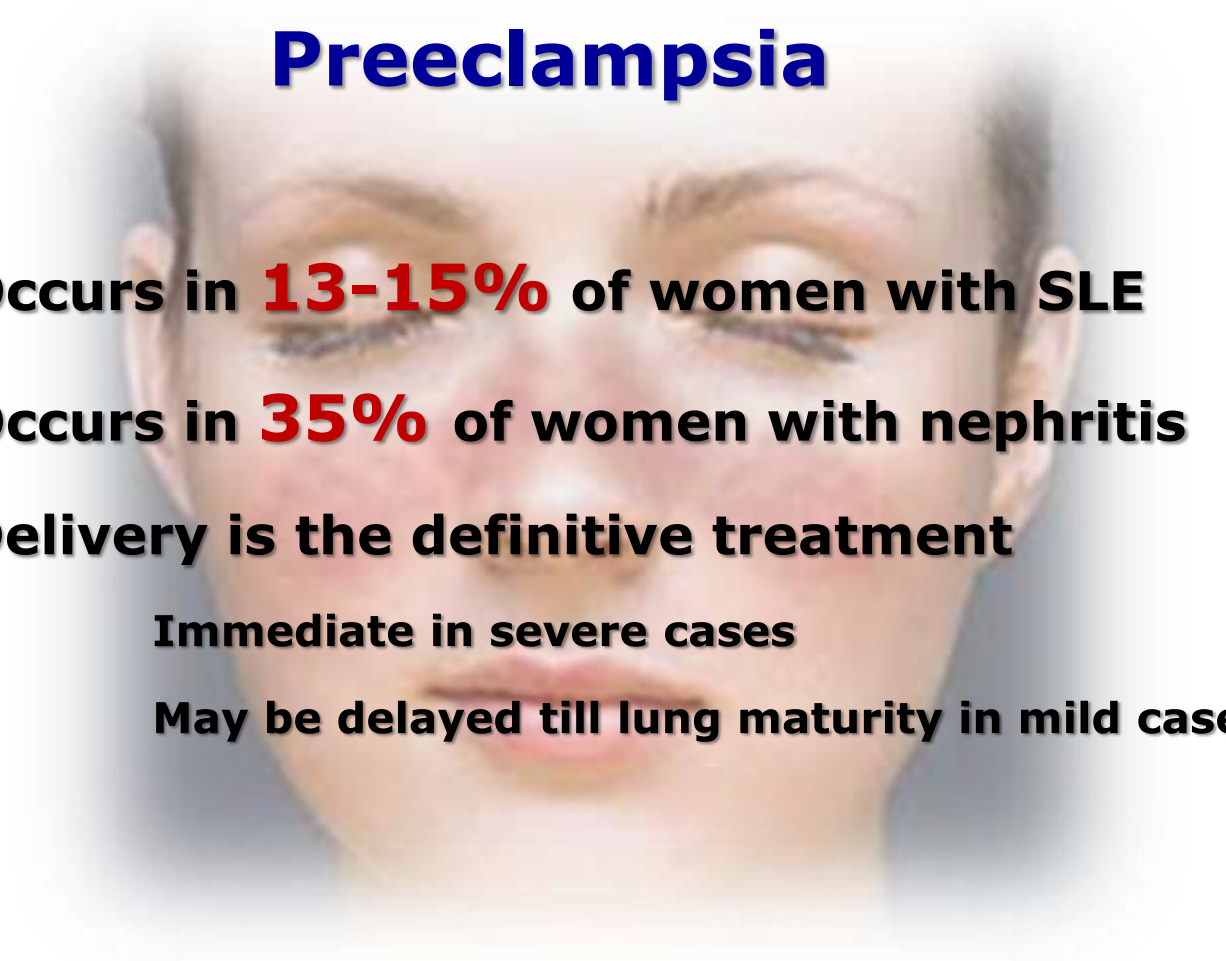
What internists should know…..

Pregnancy Complications with SLE

- Preeclampsia
- Fetal Loss
- Preterm Delivery
- Low Birth Weight Infant
- Deep Vein Thrombosis/Pulmonary Embolism

What internists should know…..

Preeclampsia

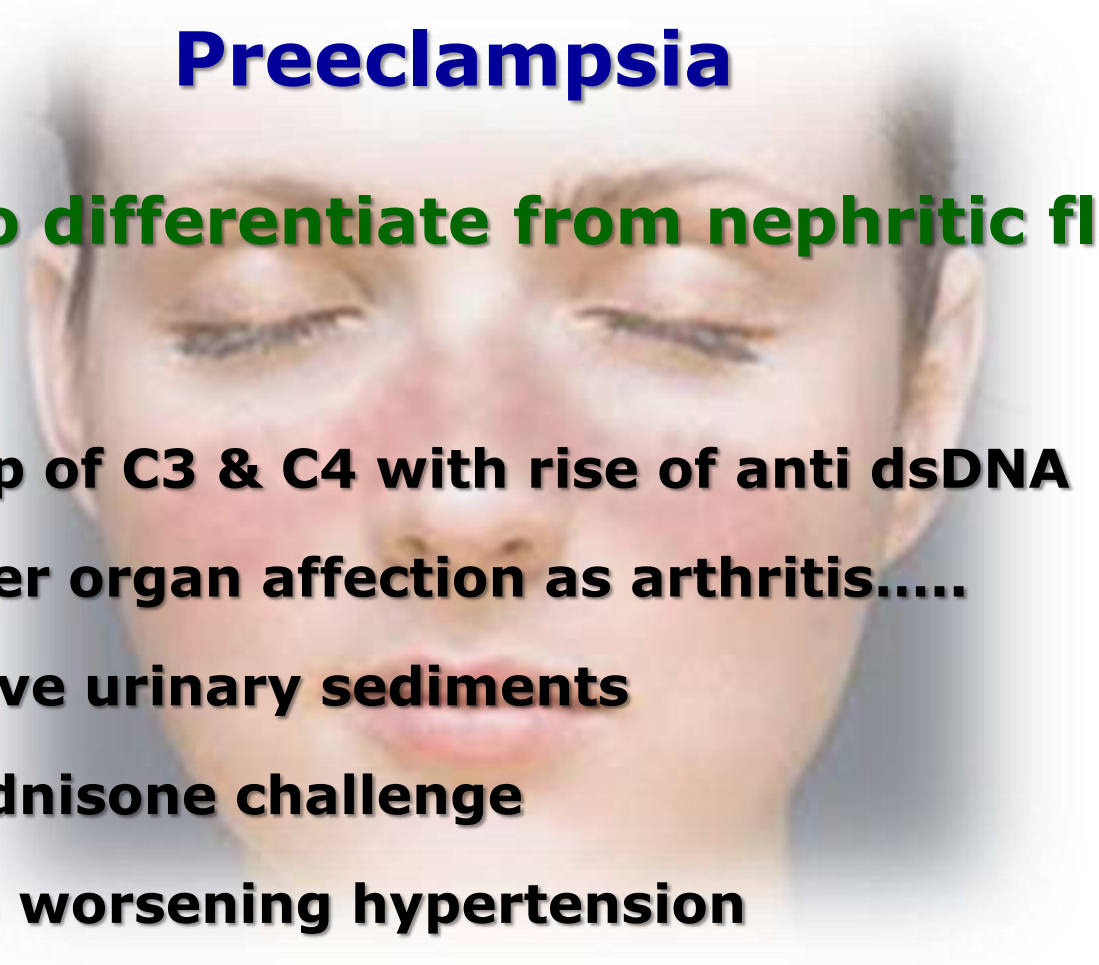


- Occurs in **13-15%** of women with SLE
- Occurs in **35%** of women with nephritis
- Delivery is the definitive treatment
  - Immediate in severe cases
  - May be delayed till lung maturity in mild cases

What internists should know…..

Preeclampsia

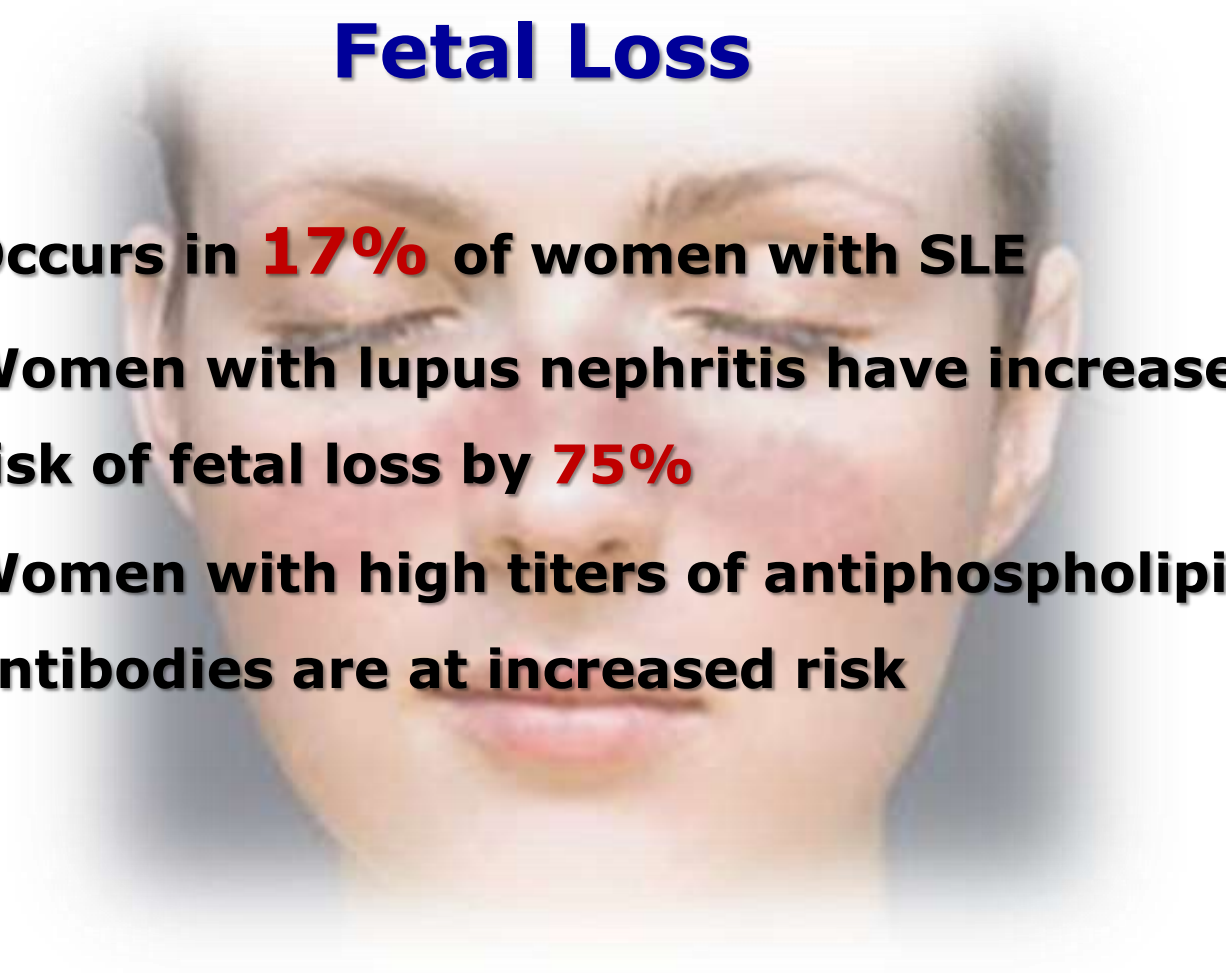
How to differentiate from nephritic flare?



- Drop of C3 & C4 with rise of anti dsDNA
- Other organ affection as arthritis…..
- Active urinary sediments
- Prednisone challenge
- Non worsening hypertension

What internists should know…..

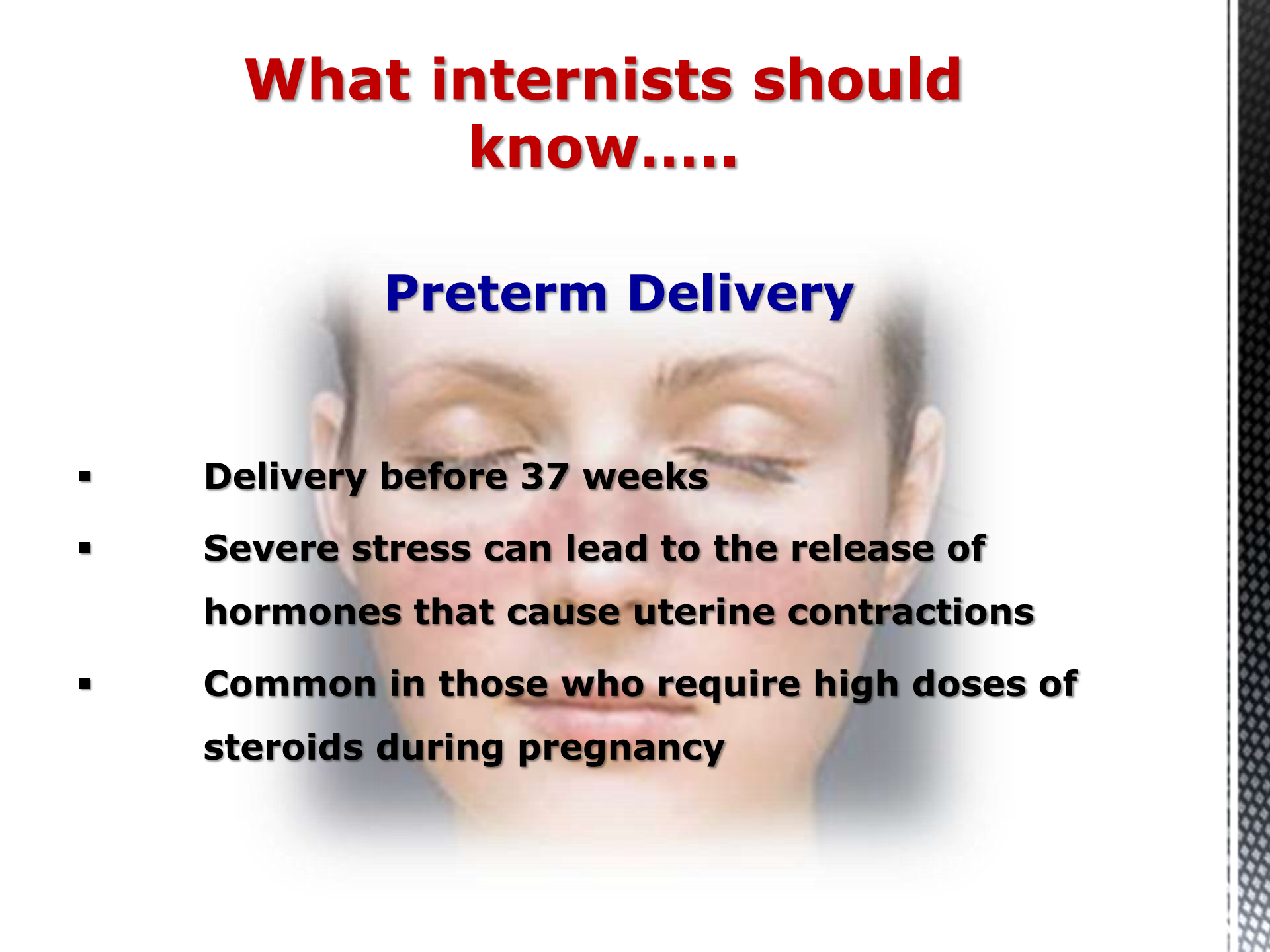
Fetal Loss



- Occurs in 17% of women with SLE
- Women with lupus nephritis have increased risk of fetal loss by 75%
- Women with high titers of antiphospholipid antibodies are at increased risk

What internists should know…..

Preterm Delivery

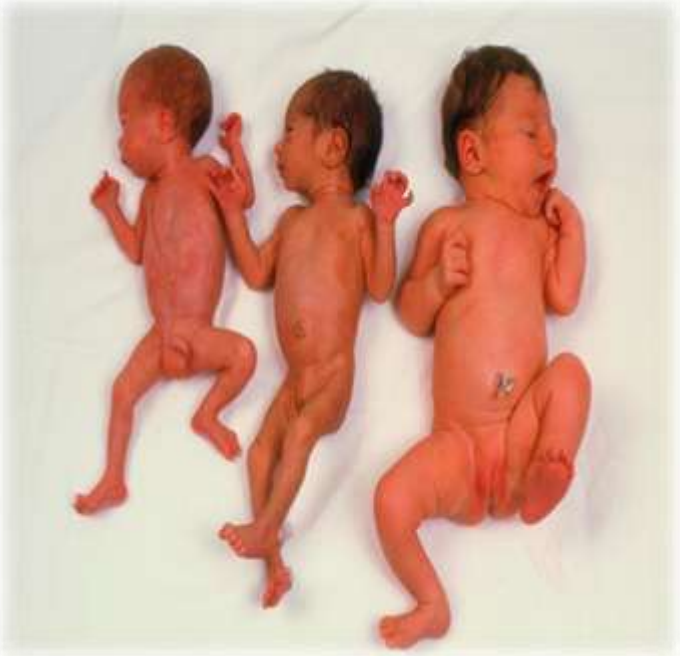


- Delivery before 37 weeks
- Severe stress can lead to the release of hormones that cause uterine contractions
- Common in those who require high doses of steroids during pregnancy

What internists should know.....

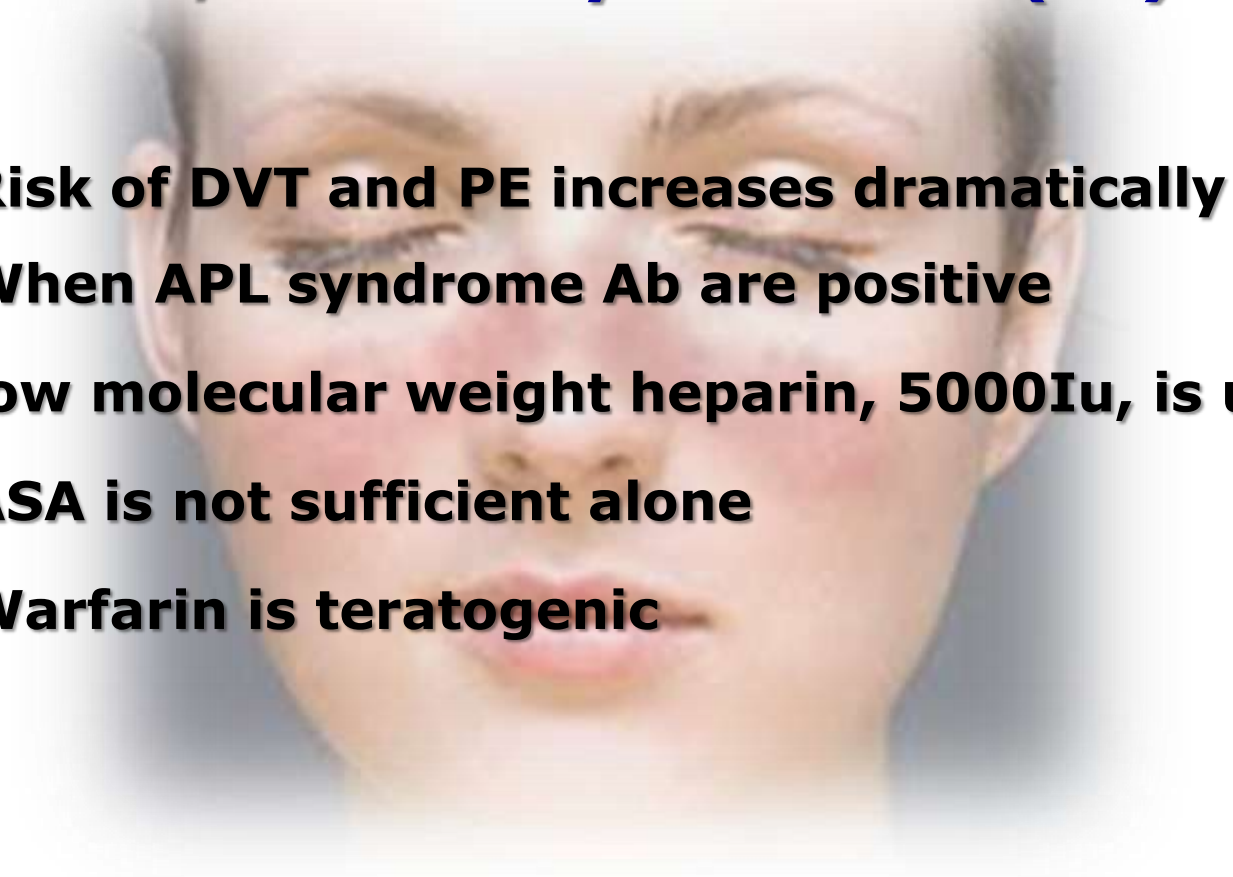
Low Birth Weight Infant

- **Infant less than 2500g**
- **PET, APS and steroids causes growth restriction**



What internists should know…..

DVT/Pulmonary Embolism (PE)

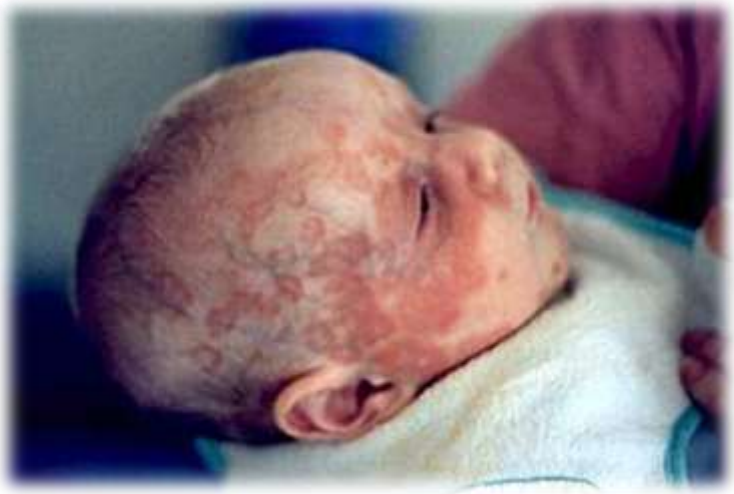


- Risk of DVT and PE increases dramatically When APL syndrome Ab are positive
- low molecular weight heparin, 5000Iu, is used
- ASA is not sufficient alone
- Warfarin is teratogenic

What internists should know…..

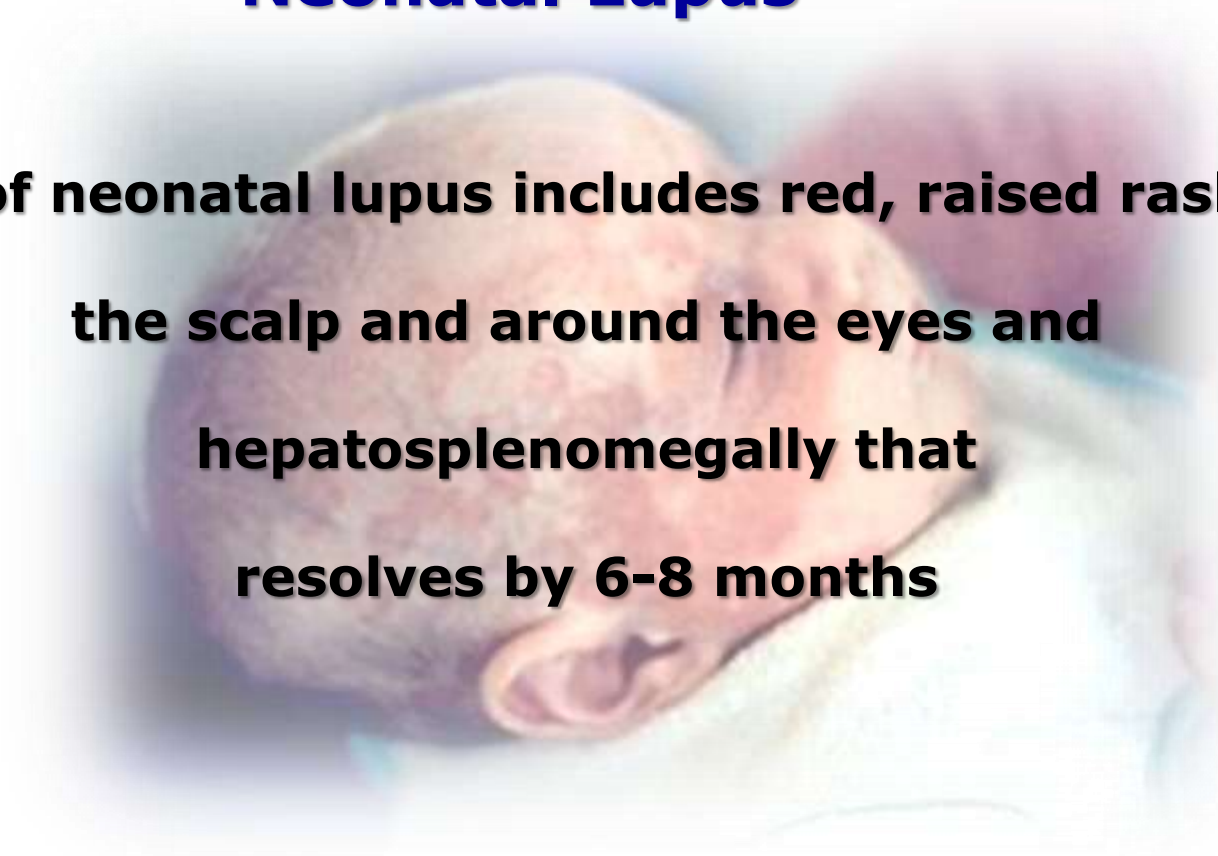
Neonatal Lupus

- Occurs in 2% of babies born to mothers with anti-Ro/SSA and or anti-La/SSB antibodies
- Caused by transplacental cross of AB after 20w



What internists should know…..

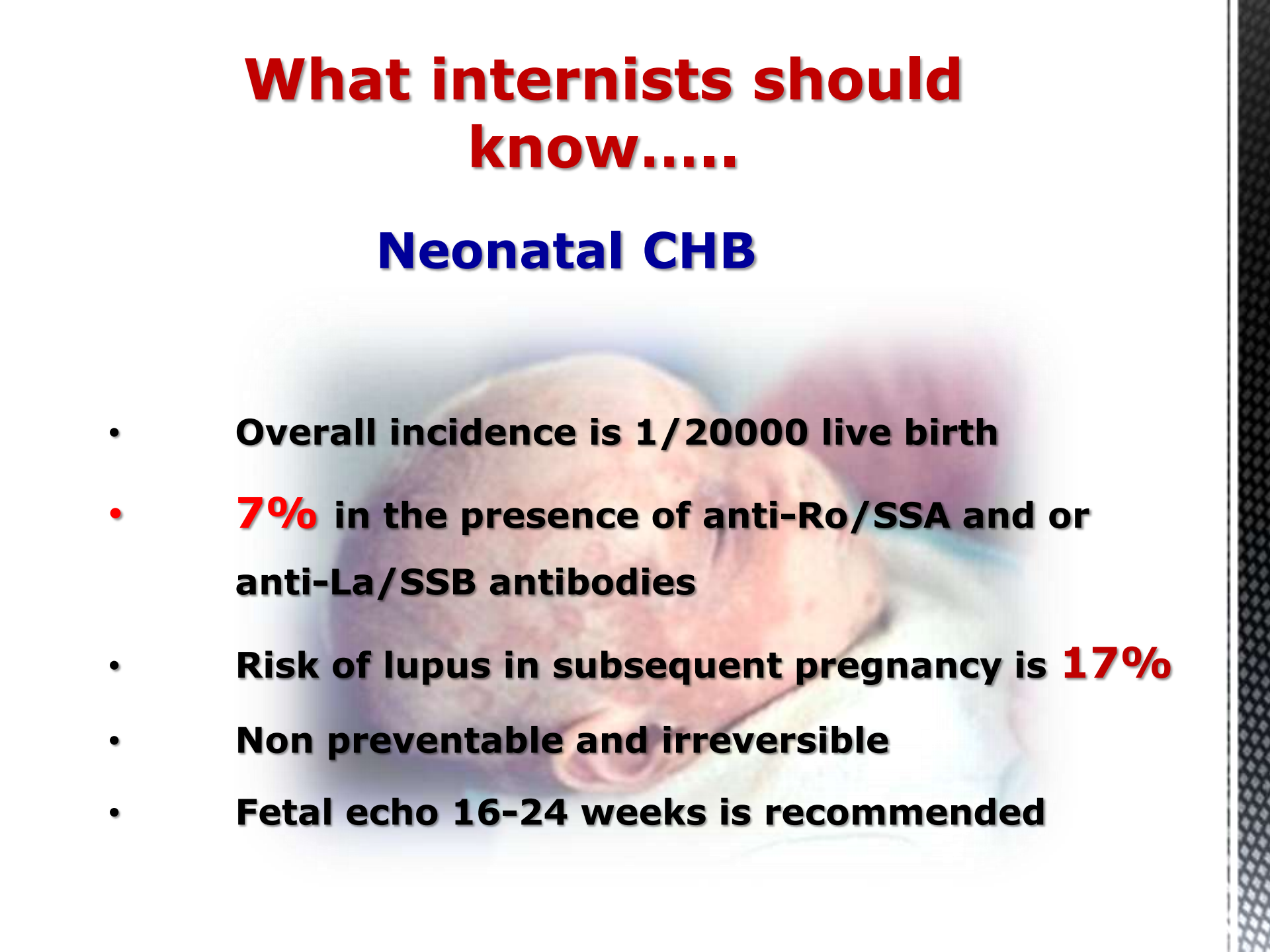
Neonatal Lupus



Signs of neonatal lupus includes red, raised rash on the scalp and around the eyes and hepatosplenomegally that resolves by 6-8 months

What internists should know…..

Neonatal CHB



- Overall incidence is 1/20000 live birth
- **7%** in the presence of anti-Ro/SSA and or anti-La/SSB antibodies
- Risk of lupus in subsequent pregnancy is **17%**
- Non preventable and irreversible
- Fetal echo 16-24 weeks is recommended

What internists should know…..

Surveillance for pregnancy with SLE

- Multidisciplinary care
- Frequent visits
- Extensive initial evaluation
- Follow up with urine and blood test in each revisit
- Follow up with biophysical profile of fetus
- Hospitalization when needed

What internists should know…..

Medications during Pregnancy

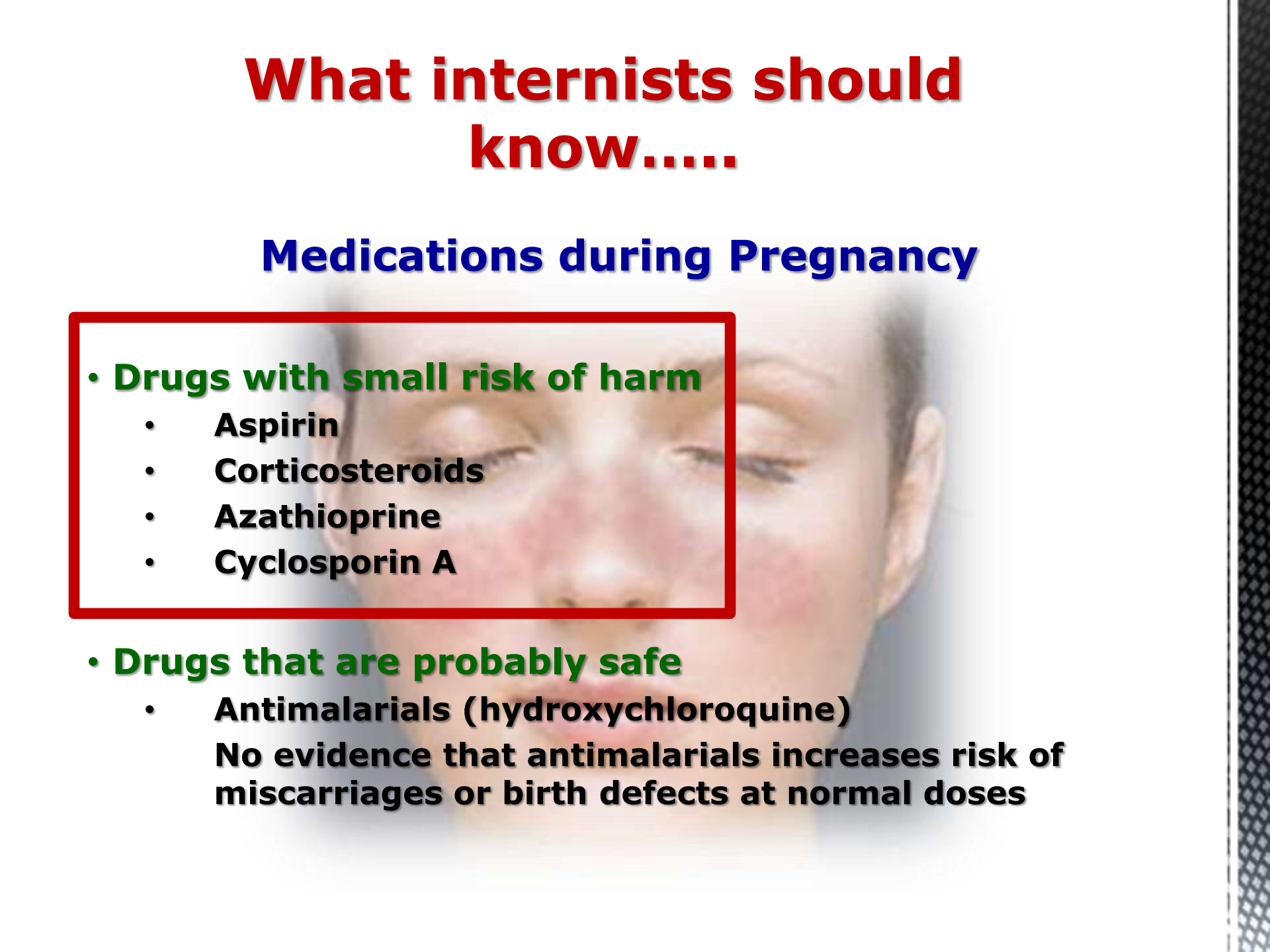
- **Drugs to avoid (immunosuppressant therapy)**
  - **Mycophenolate mofetil**
  - **Cyclophosphamide**
  - **Methotrexate**
  - **Biologic medications**

    Etanerecpt, infliximab, anakinra

    Until more data is available, should be avoided

What internists should know.....

Medications during Pregnancy



- **Drugs with small risk of harm**
  - **Aspirin**
  - **Corticosteroids**
  - **Azathioprine**
  - **Cyclosporin A**
- **Drugs that are probably safe**
  - **Antimalarials (hydroxychloroquine)**

    No evidence that antimalarials increases risk of miscarriages or birth defects at normal doses

What internists should know…..

Medications during Pregnancy

ASA

- Complications at >3gm/day
- Not teratogenic
- Prolonged pregnancy
- Bleeding
- Premature closure of PDA

What internists should know…..

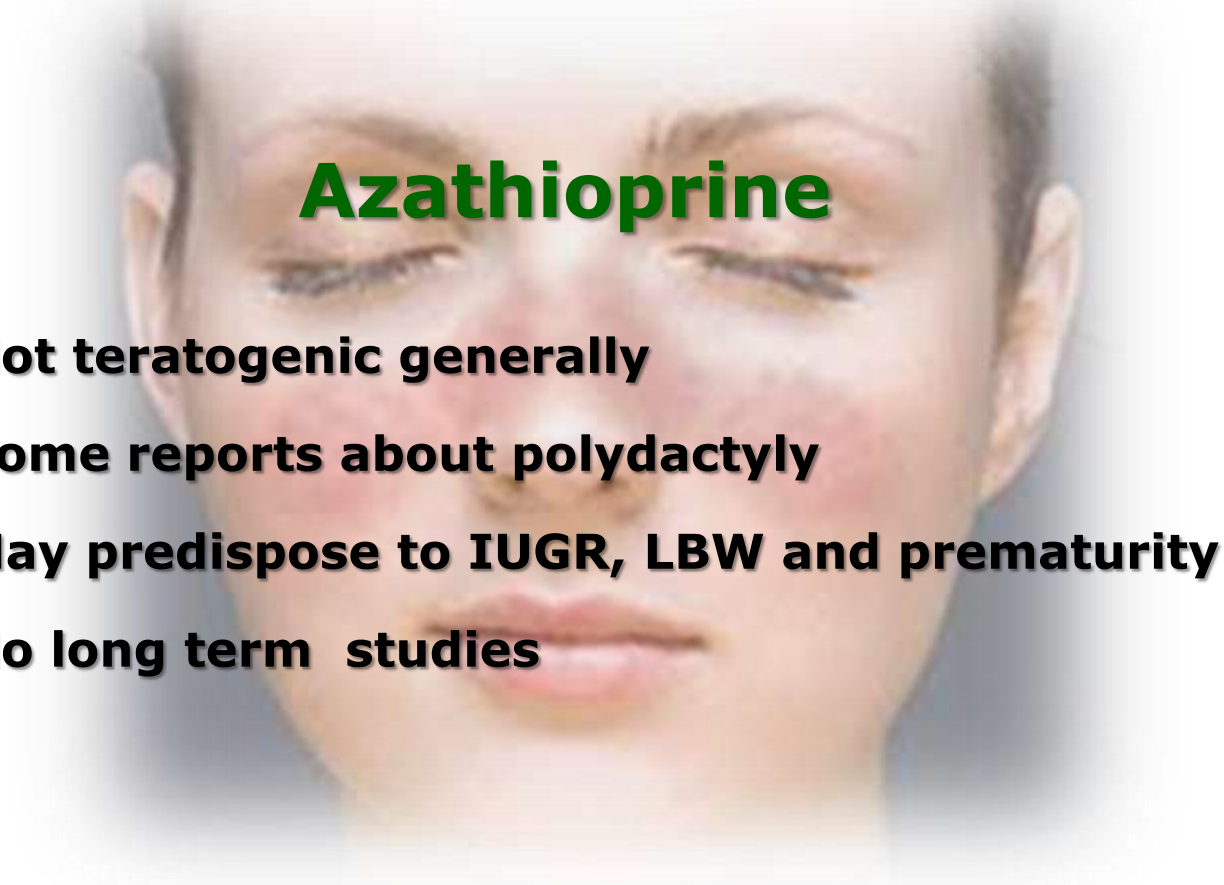
Medications during Pregnancy

Coticosteroids

- Prednisone, prednisolone and methyl prednisolone
- Not teratogenic
- Can cause IUGR and PROM
- Maternal complications

What internists should know…..

Medications during Pregnancy

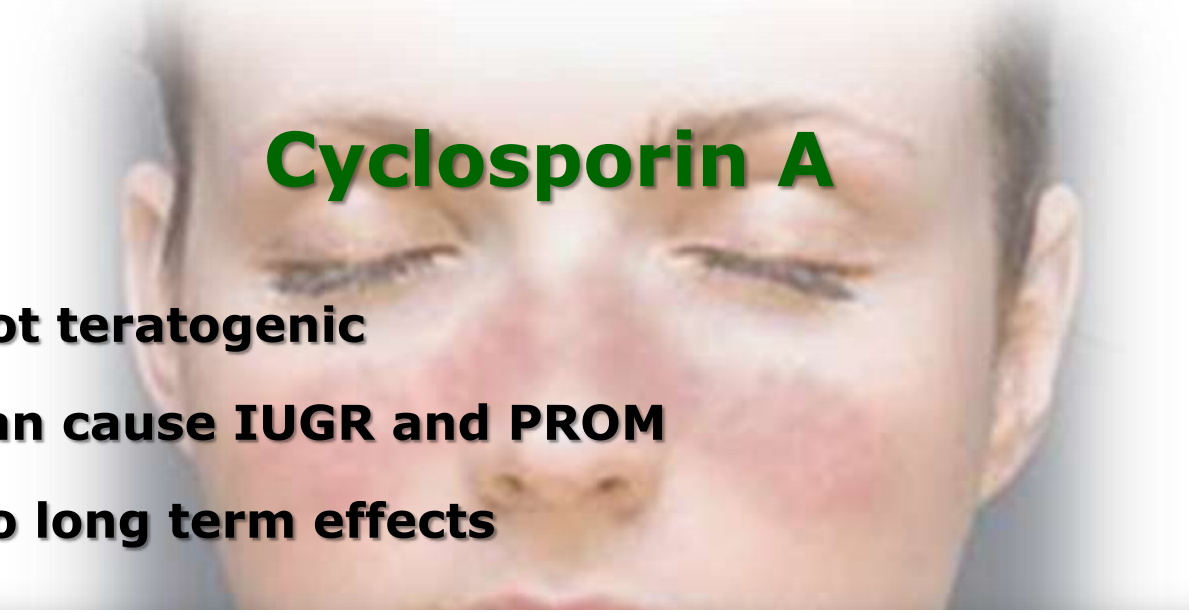


Azathioprine

- Not teratogenic generally
- Some reports about polydactyly
- May predispose to IUGR, LBW and prematurity
- No long term studies

What internists should know…..

Medications during Pregnancy



Cyclosporin A

- **Not teratogenic**
- **Can cause IUGR and PROM**
- **No long term effects**

Eur J Obstet Gynecol Reprod Biol. 2005 Aug 1;121(2):178-81.

Pregnancy outcome after renal allograft transplantation: 15 years experience.

Ghanem ME, El-Baghdadi LA, Badawy AM, Bakr MA, Sobhe MA, Ghoneim MA.

Department of Obstetrics & Gynaecology, Mansoura University Hospitals, Mansoura University, Egypt.

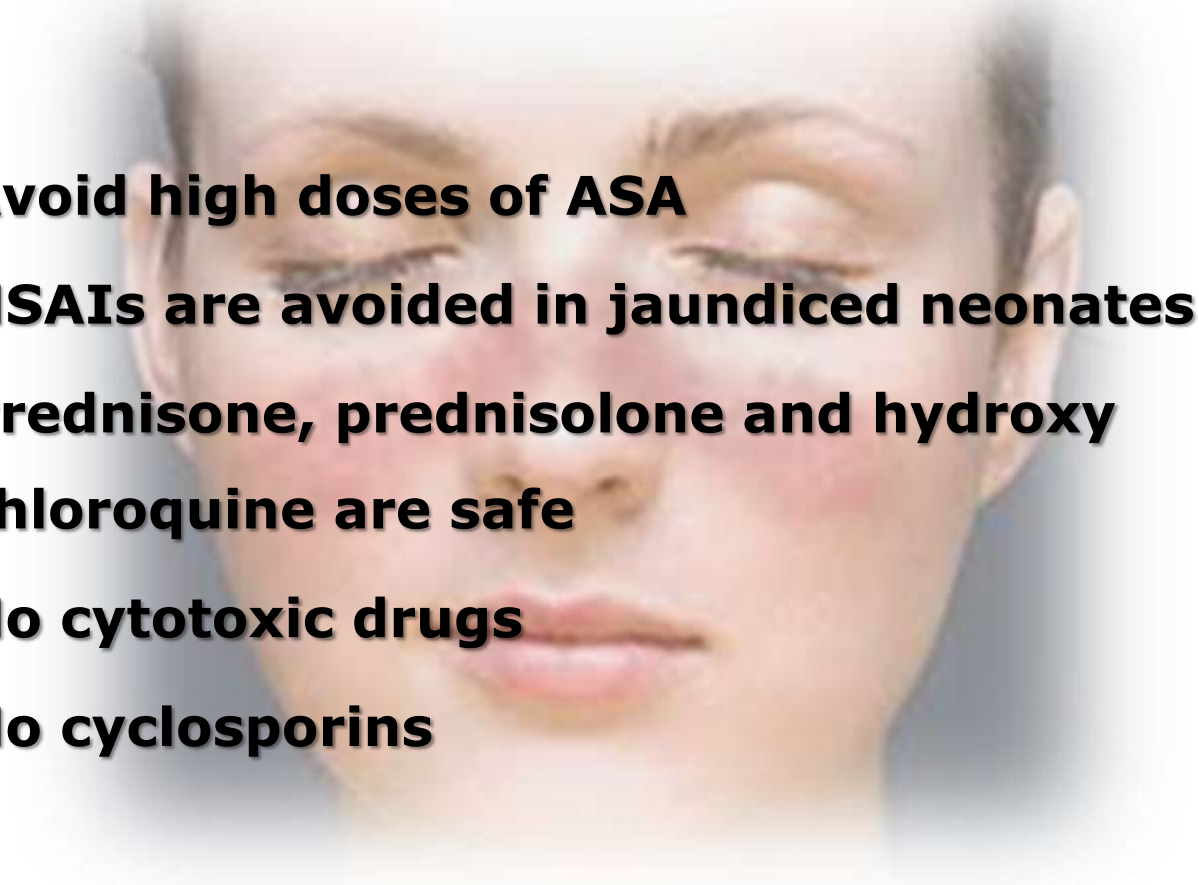
What internists should know…..

Delivery and lactation

- Delivery will need stress dose during labor
- Vaginal or cesarean delivery ?
- Breast feeding is recommended generally

What internists should know…..

Medications during lactation



- Avoid high doses of ASA
- NSAIs are avoided in jaundiced neonates
- Prednisone, prednisolone and hydroxy chloroquine are safe
- No cytotoxic drugs
- No cyclosporins

What internists should know…..

Contraception

- IUD is effective but infection…
- OCP can be used but should be avoided in women
  - Migraine headaches
  - Raynaud Phenomenon
  - Past history of DVT
  - Presence of antiphospholipid antibodies
  - Kidney disease and active SLE

Systemic Lupus Erythematosus (SLE) and Pregnancy is a real challenge